

06/18/12

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**DURHAM  
16236**

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**SPECIAL PROVISION****AMENDMENT TO SECTION 645 -- EROSION CONTROL****Item 645.512 - Compost Sock for Perimeter Berm**

This special provision provides for compost sock for perimeter berm and neither amends nor modifies the provision of this section except as noted below. The intent of this item is to work in conjunction with or in-lieu of silt fence where entrenched silt fence its not feasible.

**Description**

**1.1** The Design-Build Team shall furnish and install degradable compost socks for perimeter berm at locations shown on the SWPPP plans or as ordered. The compost sock for perimeter berm shall be used as such and is not intended for areas which may receive concentrated flows such as channels or restricted outlets.

**Materials****2.1 Compost Sock for Perimeter Berm.** Sock must be:

- A mesh tube, oval to round in cross section, 12 inches in diameter. Sock must have a minimum durability of one year after installation.
- Composed of a knitted biodegradable or photodegradable material with 1/8 to 3/8 inch openings. Fabric must be clean; evenly woven; free of encrusted concrete or other contaminated materials; and free from cuts, tears, broken or missing yarns and thin, open, or weak places.

**2.2 Compost Media.**

- Compost may be derived from green material consisting of chipped, shredded, or ground vegetation; or clean recycled wood products.
- Compost must not be derived from mixed municipal solid waste and be reasonably free of visible contaminants. Compost must not contain paint, petroleum products, pesticides or any other chemical residues harmful to animal life or plant growth. Compost must not possess objectionable odors.

**2.3 Chemical, Physical and Biological Parameters.**

- Compost products specified for use in this application must meet the criteria specified in Table 1, below.
- Only compost products that meet all applicable state and federal regulations pertaining to its production and distribution may be used in this application. Approved compost products must meet related state and federal chemical contaminant (e.g., heavy metals, pesticides, etc.) and pathogen limits pertaining to the feedstocks (source materials) in which it is derived.

**Table 1 – Compost Media Parameters**

<b>Parameters</b>	<b>Reported as (units of measure)</b>	<b>Characteristics</b>
pH <sup>2</sup>	pH units	5.0 - 8.5
Soluble Salt Concentration <sup>2</sup> (electrical conductivity)	dS/m (mmhos/cm)	Maximum 5
Moisture Content	%, wet weight basis	30 – 60
Organic Matter Content	%, dry weight basis	25 – 65
Particle Size	% passing a selected mesh size, dry weight basis	3" (75 mm), 100% passing 1" (25mm), 90% to 100% passing 3/4" (19mm), 70% to 100% passing 1/4" (6.4mm), 30% to 75% passing Maximum: particle size length of 6" (152mm) (no more than 60% passing 1/4" (6.4 mm) in high rainfall/flow rate situations)
Stability <sup>3</sup> Carbon Dioxide Evolution Rate	mg CO <sub>2</sub> -C per g OM per day	< 8
Physical Contaminants (man-made inerts)	%, dry weight basis	< 1

Note: The composition of this media is similar to the vegetated filter berm media from AASHTO R 51. Very coarse (woody) composts that contain less than 30% of fine particles (1mm in size) shall be avoided, as optimum reductions in total suspended solids (TSS) is desired and berms may be seeded.

### **Construction Requirements**

**3.1 Site Preparation.** To ensure optimum performance, cut down or remove heavy vegetation, and level uneven surfaces to ensure that the filter sock uniformly contacts the ground surface.

### **3.2 Installation.**

- Prior to installation, clear the area of obstructions including rocks, clods, and debris greater than one inch
- Fill socks uniformly with compost to the desired length such that the logs do not deform. Secure ends.
- When more than one compost sock is required to achieve desired length, join socks longitudinally with a 1 foot 6 inch overlap.
- Compost sock may be installed using installation method Type 1, Type 2, or a combination:
  - Installation method Type 1:
    - Place directly on the ground with good contact with the finish grade.
    - Secure with wood stakes every 4 feet along the length of the compost sock.
    - Secure the ends of the compost sock by placing a stake 6 inches from the end of the compost sock.

- Drive the stakes into the soil so that the top of the stake is less than 2 inches above the top of the compost sock.
- Installation method Type 2:
  - Place directly on the ground with good contact with the finish grade.
  - Secure with rope and notched wood stakes.
  - Drive stakes into the soil until the notch is even with the top of the compost sock.
  - Lace the rope between stakes and over the compost sock. Knot the rope at each stake.
  - Tighten the compost sock to the surface of the slope by driving the stakes further into the soil.
- Install compost sock approximately parallel to the slope contour or as otherwise specified in the SWPPP or ordered by the Engineer.

### **3.3 Maintenance.**

- Inspect compost socks regularly, and after each rainfall event, to ensure that they are intact and functioning correctly. Remove sediment that builds up behind the sock before it interferes with the functionality of the sock. Deposit the removed sediment within the project limits so that the sediment is not subject to erosion by wind or by water.
- Repair or replace split, torn, or unraveling socks. Replace broken or split stakes. Sagging or slumping compost socks must be repaired with additional stakes or replaced. Correct locations where rills and other evidence of concentrated runoff have occurred beneath the socks. Compost socks must be repaired or replaced within 24 hours of identifying the deficiency.
- Remove sock mesh tubes when directed by the Engineer. Cut mesh and empty sock contents in place and rake to distribute evenly.